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(54) Title: HEPATITIS C VIRAL-LIKE PARTICLE PURIFICATION

(57) **Abstract:** Methods for obtaining HCV complexes and HCV-like particles comprising HCV structural genes are provided. In one method, cells containing HCV-like particles are lysed with digitonin in the presence of protease inhibitors. Polyethylene glycol is slowly added to the lysate, to provide a precipitate that comprises complexes of the HCV structural proteins associated with lipid vesicles or micelles and complexes comprising viral structural proteins in the form of insoluble aggregates. In another method, the lysate is centrifuged through a sucrose cushion. Preferably, the pellet is then subjected to equilibrium ultracentrifugation, to provide a preparation of HCV-like particles that are heterogenous in size. The third method comprises subjecting the infected cells to hypertonic/hypotonic shock, and lysing the cells with digitonin in the presence of protease inhibitors. The lysate is pelleted and fractionated to provide a population of HCV-like particles that are substantially homogenous and have an average diameter of about 50 nm. As used herein the term "substantially homogenous" means that the shape of the particles are similar and that the size of the particles vary by 10% or less. Methods of using the HCV complexes and HCV-like particles as screening tools, diagnostic tools, and immunogenic compositions are also provided. Methods of treating patients exhibiting symptoms of HCV infection with compounds or substances that interfere with binding or internalization of the present HCV-like particles to asialoglycoprotein receptors are also provided.

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